

ABSTRACT OF THE DISCLOSURE

A ridge waveguide semiconductor laser diode is disclosed that comprises an n-type semiconductor layer, a p-type semiconductor layer having a ridge forming a waveguide and an active layer disposed between the n-type semiconductor layer and the p-type semiconductor layer. The laser diode also includes a first protective insulating layer partially covering the ridge so as to expose at least a portion of a top face of the ridge, a p-side ohmic electrode in ohmic contact with the portion of the ridge, a p-side pad electrode disposed so as to electrically connect to the p-side ohmic electrode; and an intermediate layer is disposed between the p-side ohmic electrode and the p-side pad electrode so as to cover a portion of the p-side ohmic electrode including an area that covers the top face of the ridge. The intermediate layer can be a diffusion prevention layer for preventing diffusion of a low melting point. The laser diode can also include a second protective insulating layer disposed on a portion of the first protective insulating layer. When the second protective insulating layer is used, the intermediate layer and the second protective insulating layer may have the same composition.